

204694-00099



PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
: Examiner: NYA
Milfred D. Hammerbacher, et al..)
: Group Art Unit: 1753
Application No.: 10/626,868)
: Confirmation No.: 9785
Filed: July 25, 2003)
: May 18, 2005
For: PHOTOVOLTAIC APPARATUS)
: INCLUDING SPHERICAL)
: SEMICONDUCTING PARTICLES)

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed forms PTO/SB/08A and PTO/SB/08B. In accordance with current practice, no copies of the listed U.S. patent documents are being provided. Copies of any other listed documents are enclosed.

In accordance with 37 CFR § 1.97(b)(3) this Information Disclosure Statement is being filed before the mailing of a first Office Action.

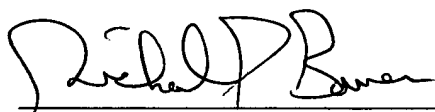
Applicants believe that no fee is required. However, the Commissioner is authorized to charge any fees deemed necessary and to make any refunds to Deposit Account 50-1710.

CONCLUSION

It is respectfully requested that the below-listed information be considered by the Examiner and that a copy of the enclosed forms PTO/SB/08A and PTO/SB/08B be returned indicating that such information has been considered.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard P. Bauer", is written over a horizontal line.

Attorney for Applicants
Richard P. Bauer
Registration No. 31,588

PATENT ADMINISTRATOR
KATTEN MUCHIN ROSENMAN
525 West Monroe Street
Chicago, Illinois 60661-3693
Facsimile: (312) 902-1061



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Complete if Known

| | |
|------------------------|----------------------|
| Application Number | 10/626,868 |
| Filing Date | July 25, 2003 |
| First Named Inventor | HAMMERBACHER, et al. |
| Art Unit | |
| Examiner Name | |
| Attorney Docket Number | 204694.00099 |

Sheet 1 of 3

U. S. PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
|-----------------------|--------------------------|--|--------------------------------|--|---|
| | | Number-Kind Code ² (if known) | | | |
| | 1 | US- 2002/0023675 | 02/28/02 | Fukui et al. | |
| | 2 | US- 2002/0096206A1 | 07/25/02 | Hamakawa et al. | |
| | 3 | US- 2002/0096207A1 | 07/25/02 | Asai et al. | |
| | 4 | US- 3,025,335 | 03/13/62 | Ralph | |
| | 5 | US- 4,361,598 | 11/30/82 | Yoldas | |
| | 6 | US- 4,610,077 | 09/09/86 | Minahan et al. | |
| | 7 | US- 4,909,856 | 03/20/90 | Ralph | |
| | 8 | US- 4,957,601 | 09/18/90 | Levine et al. | |
| | 9 | US- 5,081,069 | 01/14/92 | Parket et al. | |
| | 10 | US- 5,360,491 | 11/01/94 | Carey et al. | |
| | 11 | US- 5,482,568 | 01/09/96 | Hockaday | |
| | 12 | US- 5,486,494 | 01/23/96 | Hotchkiss et al. | |
| | 13 | US- 5,498,576 | 03/12/96 | Hotchkiss et al. | |
| | 14 | US- 5,698,451 | 12/16/97 | Hanoka | |
| | 15 | US- 5,785,768 | 07/28/98 | Nakata | |
| | 16 | US- 6,156,967 | 12/05/00 | Ralph et al. | |
| | 17 | US- 6,188,012 | 02/13/01 | Ralph | |
| | 18 | US- 6,198,037 | 03/06/01 | Nakata | |
| | 19 | US- 6,204,545 | 03/20/01 | Nakata | |

FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear | T ⁶ |
|-----------------------|--------------------------|---|-----------------------------------|--|---|----------------|
| | | Country Code ³ Number ⁴ Kind Code ⁵ (if known) | | | | |
| | 1 | 1255303 | 11/06/02 | EPC | | |
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Examiner
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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| Attorney Docket Number | 204694.00099 |

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of

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U. S. PATENT DOCUMENTS

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FOREIGN PATENT DOCUMENTS

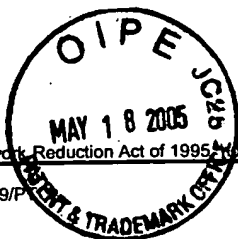
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| Art Unit | |
| Examiner Name | |
| Attorney Docket Number | 204694.00099 |

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NON PATENT LITERATURE DOCUMENTS

| Examiner Initials* | Cite No. ¹ | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² |
|-----------------------|--------------------------|---|----------------|
| | 1 | Russell R. Schmit, et al., "The Effect of Silicon Purity on Spheral Solar Cell Processing and Performance". | |
| | 2 | John K. Arch, et al., "Characterization of Silicon Spheres for Spheral Solar Cells". | |
| | 3 | David C. Wong, et al., "The Effect of Annealing and Oxidation on APCVD TIOx Film and its Impact on the Process of Silicon Solar Cells". | |
| | 4 | First Technical Summary Report Covering the Period October 1, 1959 to December 31, 1959, "Investigation on Lare Area Solar Cells Utilizing Spheres of Silicon", by Heinz F. Biekofsky | |
| | 5 | Second Technical Summary Report Covering the Period January 1, 1960 to June 30, 1960, "Investigation on Large Area Solar Cells Utilizing Spheres of Silicon" by Eugene L. Ralph, et al. | |
| | 6 | Werner Kern, et al., "Titanium Dioxide Antireflection Coating for Silicon Solar Cells by Spray Deposition", Reprinted from RCA Review Vol. 41, No. 2, June 1980 | |
| | 7 | C. J. Brinker, et al. "Sol-Gel Derived Antireflective Coatings for Silicon" Solar Energy Materials 5 (1981) 159-172 | |
| | 8 | J.L.Keddie, et al. "Effect of Heating Rate on the Sintering of Titanium Dioxide Thin Films: Competition between Densification and Crystallization", Dept. of Materials Science and Engineering, Cornell Univ., Ithica, NY | |
| | 9 | K.A. Vorotilov, et al. "Sol-gel TiO2 Films on Silicon Substrates", Moscow Institute of Radioengineering, Electronics and Automation, Vernadsky Prosp. 78, Moscow | |
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|-----------------------|--------------------|
| Examiner Signature | Date Considered |
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